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GAVILAN WATER CONSERVATION DISTRICT:

ANNUAL INVESTIGATION & REPORT OF GROUNDWATER CONDITIONS,

MARCH 10, 1981

by

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With Assistance From

R. Jack Sturla, Secretary/Manager

DISTRICT BOARD OF DIRECTORS:

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INTRODUCTION

The purpose of this report, in keeping with Section 75560 of the California Water Code, is to give an account of District groundwater conditions. Included are selected data for the consideration of the Board in its determination of (a) the annual overdraft, and (b) the accumulated overdraft as of the last day of the preceeding water year. Estimates are given, moreover, of annual overdrafts for the current water year 1980-81 and for the ensuing water year.

RESERVOIR STORAGE AND PERCOLATION

The 1979-80 water year, being significantly more humid than average, was quite adequate for South Santa Clara Valley. Uvas Reservoir was filled to capacity (with over 50,000 acre-feet of spillway flow) while Chesbro attained full storage capacity (with about 12,000 acre-feet of spillage and flood control releases).

This ampleness of rainfall and runoff provided a considerable quantity of water for underground recharge. Usable reservoir releases amounted to 14,650.17 acre-feet. The natural replenishment of the basin, moreover, amounted to about 59,000 acre-feet (Santa Clara Valley Water District, 1975, p. 126).

TOTAL WATER PRODUCTION FROM UNDERGROUND SUPPLIES AND THE ANNUAL OVERDRAFT

The total amount of water produced from groundwater supplies was approximately 44,000 acre-feet. Agriculture accounted for over three-

quarters of the extractions; with the remaining consumption ascribed to municipal, industrial, and domestic usage.

Because these groundwater extractions did not exceed natural replenishment, there was no annual overdraft of the basin during 1979-80.[1] Underground storage rose, in fact, a net average of 4.89 feet; this brought groundwater to a seasonal average depth of 55.61 feet.

ACCUMULATED OVERDRAFT AND PROJECTED OVERDRAFT CONDITIONS

Despite the significant uptrend of underground storage during the 1978-79 water year, an accumulated overdraft of 1.51 feet existed at the beginning of the current water year (1980-81). This last remainder of recent drought years has since been recouped by reservoir releases and a modicum of natural runoff (rainfall for the present water year is about 70% of normal for March 10).

Present trends indicate that groundwater levels will, during the current water year, continue to increase. The annual average level is projected to be 42.25 feet (the recorded low was 54.5 feet and the expected high is 30.0 feet.) This level, will in fact, be far higher than the 54.1 feet average depth to groundwater which is considered most practicable for sustained use of the basin. A state of hydrologic balance can, subsequently, be claimed for the District in this fourth post-drought season.

The District can happily look forward to continued favorable water levels in the ensuing water year. This condition will be realized with

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[1]*ANNUAL OVERDRAFT is defined by the California Water Code as "the amount, determined by the Board, by which the production of water from groundwater supplies within the District..... during the water year exceeds the natural replenishment of such groundwater supplies in such water year."*

even a near average precipitation and runoff season, since significant reservoir storage (carry-over from the current water year) will be available for percolation at the start of the new season.

SUMMARY AND PROSPECT

In spite of the fact that a desirable level of groundwater is being maintained, the District may not (with present facilities) be able to keep pace with burgeoning demands for water. Consumption might be as high as 80,000 acre-feet by 1990, possibly creating a significant water deficit; the average annual yield of the District is about 68,000 acre-feet, including reservoir releases (Koretsky King Associates, Inc., 1976, p. 7). A number of far-sighted measures are currently in the development stage.

Imported Water. The San Felipe Water Project, now under construction, may be one countermeasure in offsetting the anticipated increase of consumption. Much of the water delivered to the South Valley will be percolated into the underground in the Llagas Creek Channel, the Little Llagas Channel, and percolation ponds adjacent to the Llagas Creek. Turnouts will, moreover, be set at selected intervals for direct purchase by consumers (farmers, etc.). The first water deliveries are expected by 1986.

In view of the fact that no large accumulated overdraft is imminent, use of imported water may not be necessary in the initial delivery years. Future water purchases must be contracted, however, then may be resold to any willing consumer in the event the water is not locally needed (if a buyer is not found, however, the District must pay for the scheduled delivery).

Migration of Water Into North San Benito County. The movement of District groundwater into an area called the West Bolsa Basin in northern San Benito County is becoming increasingly obvious. This migration, estimated to exceed 15,000 acre-feet per annum, is due primarily to the recent conversion of the area to intensive agriculture and consequent intensive water use (USGS, 1976). Since the District provides the bulk of replenishment for this extension of its own basin, a solution for equitable groundwater management must be negotiated with San Benito County (contacts have been made with officials in that direction, with a negative response from San Benito County officials).

Percolation Facilities. Currently being acquired and developed are several percolation sites which will greatly increase the capacity of the District to recharge the underground basin. The Ball and O'Connell recharge ponds (19 and 25.5 acres, respectively) are currently in operation along the Llagas Creek near San Martin. An additional 13 acres, located immediately north of the existing facilities, is expected to become operational this Fall (1981). Negotiations are underway, furthermore, for the acquisition of several off-stream percolation sites; these will include approximately 30 more acres north of San Martin and a 20-acre recreation/percolation pond within the proposed Uvas Parkway.

Wastewater Reclamation. A wastewater treatment and distribution facility has been constructed in the Gilroy area. Designed ostensibly to alleviate drought conditions in the Fall of 1977, this project cost a total of 1.9 million dollars (interest-free financing was provided by the U. S. Bureau of Reclamation through the Emergency Drought Act of 1977). Current co-sponsors with the District are the cities of Gilroy and Morgan Hill, and the Santa Clara Valley Water District.

Although the present demand for reclaimed water is limited (only 100 acre-feet were produced for agricultural re-use during the irrigation season of 1980), the facility is expected to play an increasingly important role in the District's overall production of water. The Gilroy Golf and Country Club is expected, for example, to integrate reclaimed water with its sprinkler system this season (1981). It is possible that other such forms of consumption will develop (from industrial, agricultural, and municipal sources) as demands for water increase.[2] The facility has been designed, in fact, to allow for moderate expansion (current capacity is 700 acre-feet per year) should the need occur.

Groundwater Extraction Charge. In view of the restrictions imposed by Proposition 13, a user-tax has been initiated to meet the increasing cost of water conservation. This pay-for-what-you-use form of taxation is not only providing badly needed revenue for the District operations, but is also encouraging conservatory measures on the part of consumers. Implementation was carried out during the 1979-80 water year, with approval by the California Legislature of AB108 (introduced by Assemblywoman Leona Egeland, of the 24th Assembly District).

Since the passage of this legislation, the District has begun an account of all water-producing facilities. Meters will be installed on municipal and industrial pumps as soon as is practicable or necessary. Initial charges for agricultural water are, however, being based on a crop-factor method of estimation (agricultural pumps producing a minimum of 20 acre-feet per year may ultimately be metered). Domestic users outside of incorporated areas are, on the other hand, being charged a flat rate per household.

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[2]*City of Gilroy used the system for the purpose of wastewater disposal (over 400 acre-feet) during Fall, 1980.*

REFERENCES

Koretsky, King and Associates. 1976 Evaluation of Water Conservation Alternatives for South Santa Clara Valley Water Conservation District. (Santa Clara California: Anderson Nichols & Company).

Santa Clara Valley Water District. 1975 Master Plan for Expansion of In-County Water Distribution System. (San Jose, California).

State of California. 1977 Water Code. (Bancroft-Whitney Company, San Francisco, California).

United States Geological Survey. 1976 Mathematical Model of the West Bolsa Basin, San Benito County, California Prepared by Robert E. Faye. (Menlo Park, California: Water Resources Division).